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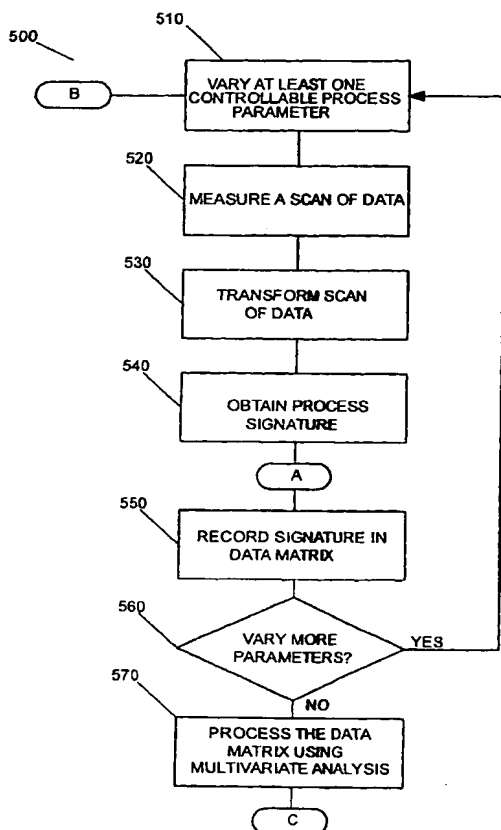
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(54) Title: METHOD OF FAULT DETECTION FOR MATERIAL PROCESS SYSTEM



(57) Abstract: A method for material processing utilizing a material processing system to perform a process. The method performs a process (510), measures a scan of data (520), and transforms the data scan (530) into a signature (540) including at least one spatial component. The scan of data (530) can include a process performance parameter such as an etch rate, an etch selectivity, a deposition rate, a film property, etc. The signature (540) can be stored (550), and compared with either a previously acquired signature or with an ideal signature (560). If at least one spatial component substantially deviates from the reference spatial component, then a process fault has potentially occurred. If the cumulative deviation of all spatial components or a select group of components substantially deviates from a reference set of spatial components, then a process fault has potentially occurred.

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